



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,789	06/28/2005	Jens A. Hansen	G3781.0007/P007	9876
24998 7590 02/14/2008 DICKSTEIN SHAPIRO LLP 1825 EYE STREET NW Washington, DC 20006-5403				
EXAMINER				
OLADAPO, TAIWO				
ART UNIT		PAPER NUMBER		
4151				
MAIL DATE		DELIVERY MODE		
02/14/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/518,789

Applicant(s)

HANSEN ET AL.

Examiner

TAIWO T. OLADAPO

Art Unit

4151

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (FTO/SE/ICE)
Paper No(s)/Mail Date 12/21/2004/01/25/2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
4. Claims 1 – 8, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over LaPierre et al. (US 5,128,024) in view of Steigleder (US 4,894,142)

5. In regards to claims 1 – 8, 11 LaPierre teaches the **process for preparation of middle distillates** (abstract: heavy oils are subjected to hydrocracking, the process is able to effect bulk conversion of the oil while yielding a low pour point product; page 14 lines 1 – 3: *the product is low in fractions boiling below 150°C, in most case have a boiling range of 150° to 340°C*. The middle distillate boiling range is 150 to 425°C) **conversion of hydrocarbon containing feedstock under hydrocracking conditions** (page 4 lines 4 – 9: hydrocarbon feedstock is heated with catalyst under *conversion conditions*. During conversion the aromatics and naphthenes in the feedstock undergo *hydrocracking reactions*, followed by hydrogenation) **hydrocarbon conversion catalyst comprising hydrogenation components** (page 2 lines 2 – 6: the *catalyst used for hydrocracking comprise* an acid component and a *hydrogenation component*) comprising **beta zeolite and an amorphous inorganic oxide** (page 12 line 10: *zeolite and inorganic oxide*) **beta zeolite having SiO₂ and Al₂O₃ molar ratio of at least 50, or at least 100** (page 7 paragraph 1: zeolite beta having silica: alumina ratio of at least *30:1, ratios of at least 50:1 and preferably at least 100:1 or even higher*) **amorphous inorganic oxide consisting of silica-alumina and alumina** (page 12 lines 5 – 6: zeolite may be composited with a porous matrix material, such as *alumina, silica-alumina*) **one or more hydrogenation components are selected from the Group VIB or group consisting tungsten, molybdenum, nickel or combinations of nickel and tungsten** (page 10 paragraph 4: zeolite beta is preferably used in combination with *tungsten, molybdenum, nickel*, combinations of non-noble metals such as *nickel-tungsten* are exceptionally useful with many feedstocks) **wherein the support comprises less than 50 wt% zeolite beta and at least 50 wt% amorphous inorganic oxide** (page 12 paragraph 2: the relative proportions of zeolite component and inorganic oxide gel may

vary with zeolite content ranging from 10 to 99 percent by weight). The teachings of LaPierre address the process of the claimed invention but do not exactly recite every parameter such as the *NH₃-TPD Acidity Index* or *Ion Exchange Capacity Acidity Index* from that taught by the reference. Steigleder teaches a process of preparing middle distillates from heavy hydrocarbons using zeolite catalyst (column 1 lines 15 – 21), comprising using an **ion exchange capacity of less than 3.7 or 2.7** (column 2 lines 40 - 41: ion exchange capacity of not greater than 0.070), **acidity index is less than 2.3** (column 3 lines 51 – 55: acidity strength value of less than 2). Steigleder teaches that the ability of zeolites “to produce middle distillate products is directly correlated to the acid strength of the zeolite, which in turn is set by the concentration of hydroxyl groups on the zeolite.” It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teaching of Steigleder to the process of LaPierre by providing low acidic zeolites that are suitable for making middle distillate products.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAIWO T. OLADAPO whose telephone number is (571)270-3723. The examiner can normally be reached on Monday - Friday (11:30-5:00) EST, ALT Friday's Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mikhail Kornakov can be reached on 571-272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TO
/Michael Kornakov/
Supervisory Patent Examiner, Art Unit 4151